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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/566,098	01/27/2006	Soren Erik Knudsen	P08844US00/DEJ	1918
881 7590 02/22/2008 STITES & HARBISON PLLC 1199 NORTH FAIRFAX STREET SUITE 900 ALEXANDRIA, VA 22314				
EXAMINER KERNS, KEVIN P				
ART UNIT 1793		PAPER NUMBER		
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/566,098

**Applicant(s)**

KNUDSEN, SOREN ERIK

**Examiner**

Kevin P. Kerns

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 November 2007 and 10 December 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☒ Claim(s) 6 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 January 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: "8" (Figures 1 and 3-5). Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

In this instance, replace the legal term "comprising" with "including" in the 1<sup>st</sup> line.

### ***Claim Objections***

3. Claim 6 is objected to because of the following informalities: in the 1<sup>st</sup> line, the dependency of the claim should be changed from "claim 4" to "claim 5" to obtain proper antecedent basis for "said weighing unit". In the 2<sup>nd</sup> line, delete "the" before "deflection" to obtain proper antecedent basis. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-4 and 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buhner et al. (US 3,601,161) in view of SU 628986 (complete translation of the Soviet reference provided with this Office Action).

As to claims 1 and 7, Buhner et al. disclose a molding sand supply apparatus and method for its use, comprising a sand reservoir (2) for delivering sand, a belt conveyor

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(4), a flask (9), and means for controlling belt speed (not shown). As to claims 2, 3, and 8, guide plates (6) are operable to distribute sand. As to claims 4 and 9, a funnel (5) is operable to guide falling sand (abstract; column 3, lines 59-75; column 4, lines 1-52; column 5, lines 59-66; and Figures 1-4). With regard to independent claims 1 and 7, Buhner et al. disclose a means for controlling the belt conveyor speed and a method for its use, which would inherently and/or obviously lead to a speed profile and controlled, varied distribution of sand delivered to and filling the flask relative to the speed of the belt conveyor, such that the controlled, varied distribution of sand is advantageous for efficiently filling the flask with sand, in particular at the end of the sand filling process, so that the flask would not become overfilled (leading to overflow and wasteful spillage) with sand, as one of ordinary skill in the art would have readily recognized. Buhner et al. do not that the sand is cast directly to a flask without any movement of the discharge end of the belt conveyor relative to the flask.

However, SU 628986 discloses a device for filling flasks with a molding mixture (molding sand), in which the device includes belt feeders (3,4) that directly feed molding sand from hoppers (6,7) (without an intermediate hopper) into a flask (see unlabelled structure at the bottom of the figure), such that a movable platform 1 with a reversible drive 2 is operable to position the discharge ends of belt feeders (3,4) directly over the flask, with the discharge ends of the belt feeders (3,4) having no relative movement (in terms of vertical distance) relative to the flask, to provide the advantage of increasing the quality of the mold via control of lining and filling mixtures corresponding to the shape of the model (pages 1 and 2 of translation; and Figure).

It would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to modify the molding sand supply apparatus and method for its use, as disclosed by Buhner et al., by using the direct casting of sand into a flask without any movement of the discharge end of the belt conveyor relative to the flask, as taught by SU 628986, in order to increase the quality of the mold via control of lining and filling mixtures corresponding to the shape of the model (SU 628896; last full sentence of page 1 of translation).

6. Claims 5, 6, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buhner et al. (US 3,601,161) in view of SU 628986, as applied to claims 1 and 7 above, and further in view of JP 60-191635.

Buhner et al. (in view of SU 628986) disclose and/or suggest the features of claims 1 and 7, but lack the mentioning of detecting the weight of sand with sensors.

However, JP '635 discloses weight sensors to monitor the weight ratio of molding sand (abstract; and Figures 4, 7, and 8).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to provide the weight sensors taught by JP '635, in the combined teachings of Buhner et al. in view of SU 628986), in order to monitor the weight of the sand (JP '635; abstract).

***Response to Arguments***

7. The examiner acknowledges the applicant's after final amendment entered upon filing of the request for continued examination, which were received by the USPTO on November 9, 2007 and December 10, 2007, respectively. Upon review, new objections to the drawings, abstract, and claim 6 are raised in above sections 1-3. Claims 1-10 remain under consideration in the application.

8. Applicant's arguments with respect to claims 1-10 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Kevin P. Kerns whose telephone number is (571)272-1178. The examiner can normally be reached on Monday-Friday from 8:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Kevin P. Kerns  
Primary Examiner  
Art Unit 1793

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Primary Examiner, Art Unit 1793  
February 13, 2008